## ABSTRACT OF THE DISCLOSURE

An abnormality determining device for a longitudinal acceleration sensor for a vehicle has: a first acceleration estimating unit based on a wheel speed; a second acceleration estimating unit based on the throttle angle; a determination-permission deciding unit for setting a determination-permission region based on the estimated values of the first and second acceleration estimating unit so as to output a determination-permission signal when a deviation between the vehicle acceleration by the first acceleration estimating unit and by the second acceleration estimating unit is within a predetermined value; and a determining unit for setting an abnormality determining region based on the vehicle acceleration estimated by the second acceleration estimating unit and for determining that the longitudinal acceleration sensor is abnormal, if the output value of the longitudinal acceleration sensor exists in the abnormality determining region for a predetermined time or longer in a state that a determination-permission signal is output.

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